

Claims:

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A process for automatic determination of the alkalinity of one or more cleaning baths containing surfactant by acid-base reaction with an acid, whereby, subject to the use of a suitable measuring device under program control,

(a) a sample of specified volume is drawn from a cleaning bath,

(b) if desired, the sample is freed of solids,

(c) a selection is made as to whether free alkalinity and/or total alkalinity is to be determined,

(d) the sample is titrated by addition of an acid, or an acid is submitted and the latter is titrated with the sample,

(e) the result of the titration is output and/or stored on a data carrier and/or utilised as the basis for further evaluations.

2. A process as claimed in claim 1 wherein steps (a) to (e) are repeated after a specified time interval.

3. A process as claimed in claim 1 wherein steps (a) to (e) are repeated after time intervals that are shorter, the more the results of two consecutive determinations differ.

4. A process as claimed in claim 1 wherein steps (a) to (e) are carried out by reason of an external request.

5. A process as claimed in one or more of claims 1 to 4 wherein, after a specified time interval or after a specified number of determinations or by reason of an external request, the functionality of the measuring device employed is examined by check measurement of one or more standard solutions.

6. A process as claimed in one or more of claims 1 to 4 wherein the functionality of the measuring device employed is examined by check measurement of one or more

standard solutions if the results of two consecutive measurements differ by a specified amount.

7. A process as claimed in one or both of claims 5 and 6 wherein, depending on the result of the examination of the measuring device employed, the determinations of alkalinity that have taken place between the current check measurement and the preceding one are provided with a status identifier that denotes the reliability of these determinations of alkalinity.

8. A process as claimed in one or both of claims 5 and 6 wherein, depending on the result of the examination of the measuring device employed, automatic determination of the alkalinity is continued and/or one or more of the following actions are carried out: analysis of established anomalies, correction of the measuring device, termination of the determinations of alkalinity, transmission of a status signal or an alarm signal to a higher-level process-control system or to a monitoring device.

9. A process as claimed in one or more of claims 1 to 8 wherein, when step (d) is implemented, a pH-sensitive electrode is employed.

10. A process as claimed in one or more of claims 1 to 8 wherein, when step (d) is implemented, an indicator is employed, of which the pH-dependent interaction with electromagnetic radiation is measured.

11. A process as claimed in one or more of claims 1 to 8 wherein, when step (d) is implemented, use is made of a substance, the color and/or refractive index and/or electrical conductivity of which changes with the pH value of the surrounding solution.

12. A process as claimed in one or more of claims 1 to 11 wherein the filling levels of the reagents employed are automatically monitored and a warning signal is output in the event of a specified minimum filling level not being attained.

13. A process as claimed in one or more of claims 1 to 12 wherein the results of the determinations and/or of the check measurements and/or of the calibrations and/or the status signals are transmitted continuously or at specified time intervals and/or on request to a location differing from the location of the determination.
- 5 14. A process as claimed in one or more of claims 1 to 13 wherein, in the event of a specified minimum value of the alkalinity not being attained or on request, a device is activated that meters one or more replenishing components into the cleaning bath.

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